

Native Forest Management Plan

February 2006

Sylvia Marsh

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1. Property location:

- Nelson locations 10914, 10920.
- Smith Brook Rd. Shire of Manjimup (see map attached).
- 14 km SSE of Manjimup. Approx 426000 E, 6619700 N
- Zone C, Warren catchment

2. Vegetation and rainfall

Native vegetation	46 ha	48%
Cleared with shade trees	49 ha	52%
Total area	95 ha	100%

The native vegetation consists of karri (*E. diversicolor*) regrowth forest with occasional marri (*C. corymbia*)

Long term average rainfall is 1100 mm per year

Mattiske and Havel (1998) have mapped the following Vegetation Complexes for the site:
WH1, CRb, Cry, LF

These complexes are well represented in reserves.

There are no recorded rare or endangered flora in the forest or on similar vegetation complexes within the general vicinity.

3. Forest condition and management history

The karri forest consists of good quality pole stands and two tiered forest resulting from past clearing and harvesting.

Of the areas proposed for harvesting, Area 1 is believed to have been cleared in the 1940s, Area 2 and 3 in the 1960s and Areas 4 and 5 were partly cleared and selectively harvested to varying intensity in the 1950s.

Area	Hectares	Height range of pole size trees	Basal area
Area 1	11	35-45 m	25-45 m ² /ha
Area 2	1	30-35 m	25-30 m ² /ha
Area 3	5.5	30-35 m	20-30 m ² /ha
Area 4	15	40-45 m	35-45 m ² /ha
Area 5	5.5	35-40 m	30-40 m ² /ha

The understorey condition is variable. All areas except Area 4 are open to stock grazing. Understorey is sparse in Areas 2, 3, and 5. The understorey in Area 1 is moderate to dense with some weed invasion. Area 4 is normal, moderately dense karri understorey.

There is an additional area of 9 ha of karri forest, some parkland cleared, that will not be harvested.

4. Owner's Management objectives

- To maintain forest areas in a healthy and productive condition.
- To produce a periodic income from wood products such as sawlogs and maintain the potential for sustainable production.
- To maintain wildlife habitat and water quality.
- To retain the option to clear a portion of the forest and convert it to agricultural use at some time in the future within the limits permitted in the catchment.
- To remove some paddock trees that are likely to drop limbs in the foreseeable future.

5. Strategies

- Thin all forest areas to a density that will maximise value growth without a significant compromise to volume growth.
- Thin to retain sufficient density so that regeneration is not required at this stage of stand development.
- Thin from below for pulpwood and small sawlogs with limited thinning from above for larger sawlogs.
- Retain veteran karri trees at a minimum rate of one per hectare (if they exist) as 'habitat trees'.

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- Limit damage to soil and retained trees during harvesting operations.
- Burn 'flash' fuels resulting from logging debris in the first or second spring following harvesting.

6. Prescription for silviculture and harvesting

6.1. Area proposed for thinning

38 ha

Thinning will be conducted over several years, beginning with Areas 2 and 3.

6.2. Demarcation

- Demarcate a stream buffer 30 m to the north of the stream in Area 1.

6.3. Tree selection

- Thin from below, retaining pole sized trees in the dominant to co-dominant class that have good future sawlog potential.
- In addition to removing subdominant trees, sawlog trees >80 cm dbh may also be removed provided that the nominated basal area of good quality pole sized or mature trees is retained.
- Select trees with regard to spacing and do not remove large veteran trees if they will cause excessive damage to retained trees or result in large gaps in the canopy.
- Retain all trees in patches where the density is equal to or less than indicated below.
- Retained basal area:

Areas 1, 4 and 5	18 m ² /ha
Areas 2 and 3	16 m ² /ha
- A sample area in each patch should be marked before harvesting, thereafter selection of trees for retention may be made by the harvester operator with regular checks of density.

6.4. Harvesting operations

- All harvesting equipment must be cleaned before entry to the property.
- Extraction routes for harvesters and log trucks is to be selected prior to harvesting.
- Where it is necessary to cross creeks during extraction, crossings are to be constructed to minimise immediate and ongoing turbidity or impedance of stream flow.
- Damage to retained trees is to be avoided during harvesting operations, and all harvesting debris larger than 75 mm diameter is to be pulled at least 1 m from the base of any retained tree.
- Harvesting should preferably be conducted during dry soil conditions. If this is not practicable then the practices and limits to soil damage applying at the time to thinning operations in State Forest are to be applied (CALM's Manual of procedures for the management of soils associated with timber harvesting in native forests).
- At the completion of harvesting, cross drains are to be constructed across all extraction tracks according to the following specifications:

Spacing:	3-5°	100 m apart
	6-10°	50 m apart
	11-20°	30 m apart
	>15°	15 m apart

Size: 40 cm wide, 40 cm high. 3-5° angle.

- Following completion of loading operations, disturb (e.g. with the forks of the loader) landing sites that are located in the forest to reduce compaction and facilitate natural regeneration of understorey.
- Log products should be cut and sorted for sale at highest value.

7. Follow-up operations

In the first or second spring following harvesting, burn the 'flash' fuel created by harvesting to reduce fire risk and stimulate understorey regeneration. The objective is a mild burn that will not damage the retained trees. It does not have the objective of removing large log debris or creating ashbed for tree regeneration which is not required at this stage of stand development.

Grazing should be minimised where possible to allow understorey to be maintained.

8. Monitoring

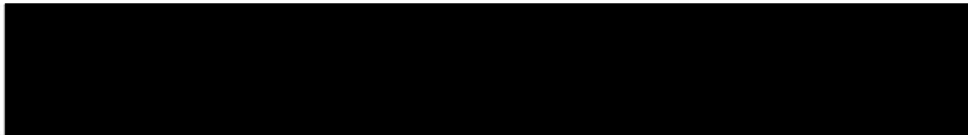
The following items should be monitored regularly during the operation to ensure that:

- Specified minimum basal area is retained,
- Spacing is acceptable,
- Correct number of habitat trees are retained,
- Soil compaction limits are not exceeded,
- Tops are removed from the base of retained trees,
- Erosion barriers are installed,
- Maximum utilisation of forest produce and value is achieved.

9. Permit/licence applications required

Commercial Producer's licence (Department of Conservation and Land Management)
Country Area Water Supply clearing licence (Department of Environment)
Approval to sell for woodchips (Soil and Land Conservation Commissioner)

10. Signatures



F.J. Bradshaw
Forest Consultant

S. Marsh
Owner

Date 3/2/08

Date 13-11-2012

11. Attachments

1. Location map
2. Aerial photo
3. Site photographs

11.1. Locality map



11.3. Site photographs



Area 1



Area 2. Understorey condition is similar in Areas 3 and 5.



Area 4